

Remarks

Claims 22-42 are pending in the subject application and are currently before the Examiner. Favorable consideration of the pending claims is respectfully requested.

Applicants gratefully acknowledge the Examiner's withdrawal of the objection to the drawings and the rejections under 35 USC §112, first paragraph, and 35 USC §102(b).

Claims 22-42 remain rejected under 35 USC §102(e) as anticipated by Stout *et al.* (U.S. Patent No. 6,291,743). The Examiner asserts that the Stout *et al.* patent discloses a transgenic plant (referred to by the Examiner as the "RTSC" plant) comprising a polynucleotide that encodes a wild type (*i.e.*, non-mutated) Rep protein of a tomato mottle virus. The Examiner further indicates that the "RTSC transgenic plant" disclosed in Stout *et al.* "would inherently have increased resistance to infection by a geminivirus plant virus" in the absence of evidence to the contrary. Applicants respectfully traverse this rejection.

Applicants respectfully maintain that the Stout *et al.* patent does not teach or suggest Applicants' claimed invention. As noted above, the Examiner asserts that the Stout *et al.* patent discloses an RTSC transgenic plant that comprises a polynucleotide that encodes a wild type non-mutated Rep protein of tomato mottle virus. Applicants respectfully assert that the Stout *et al.* patent does not teach a transgenic plant comprising a polynucleotide that encodes that a wild type or non-mutated tomato mottle virus Rep protein. The "RTSC" designation used by the Examiner and referred to in the Stout *et al.* patent is not for a transgenic plant. Rather, the "RTSC" designation refers to an Agrobacterium (designated LBA 4404) that is transformed with a polynucleotide construct comprising a wild type (*i.e.*, non-mutated) AC1 ORF of tomato mottle virus in a sense orientation (see column 16, lines 45-47, of the Stout *et al.* patent). The "RTAC" designation, also used in the Stout *et al.* patent, refers to an Agrobacterium that is transformed with a polynucleotide construct comprising a wild type AC1 ORF of tomato mottle virus incorporated in the antisense orientation. Nowhere in the Stout *et al.* patent is there a description or discussion of transformation of a plant with the Agrobacterium designated as "RTSC."

The Examiner's attention is also directed to Table 2 of the Stout *et al.* patent which provides a list of tomato plants transformed with various constructs. Under the column in Table 2 labeled "Gene," it is noted that "RTSC" is not shown or listed anywhere within the table (Applicants

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acknowledge that "RTAC" is referenced in the table, as is "DHAC," but these are antisense constructs, as noted above). Applicants also note that all of the transformed tomato plants described in Table 3 of the Stout *et al.* patent contain constructs having dominant lethal mutations. Applicants further note that the results pertaining to viral challenge of transgenic plants disclosed in the Stout *et al.* patent in Tables 5-10 are all transgenic plants that comprise constructs that have mutations in the tomato mottle virus gene. In fact, none of the tables in the Stout *et al.* patent disclose or describe a transgenic plant produced using the Agrobacterium designated as "RTSC" in the Stout *et al.* patent. Moreover, the teachings in the Stout *et al.* patent regarding plants transformed with "RTAC" or "DHAC" are not relevant because those comprise antisense constructs and, therefore, do not encode a non-mutated Rep protein as recited in Applicants' claimed invention.

Thus, Applicants respectfully assert that the Stout *et al.* patent does not teach a method for providing resistance to a geminivirus using a construct that encodes a non-mutated Rep protein, nor does it teach a transgenic plant comprising a polynucleotide encoding a non-mutated Rep protein. If the Examiner disagrees with Applicants' comments concerning the Stout *et al.* patent and the teachings therein, Applicants respectfully request that the Examiner, in a further communication, specifically identify the text in the Stout *et al.* patent that describes transgenic plants or plants transformed with a polynucleotide that encodes a non-mutated Rep protein of tomato mottle virus. Although the Stout *et al.* patent discloses the production of Agrobacterium with a construct that comprises a polynucleotide that encodes a non-mutated Rep protein of tomato mottle virus, the patent is completely silent with respect to the production of transgenic plants or plants transformed with such an Agrobacterium. The Stout *et al.* patent is also silent with respect to methods for providing resistance to a geminivirus using a construct that encodes a non-mutated Rep protein of tomato mottle virus.

In regard to Applicants' remarks regarding the teachings in column of 34 of the Stout *et al.* patent, the Examiner asserts that the text of the patent is "silent regarding those constructs **lacking** mutations." (emphasis added). Applicants respectfully assert that the Stout *et al.* patent is not silent regarding constructs lacking mutations that are described in column 34. As indicated in Example 11 and Table 12 of the Stout *et al.* patent, the wild type non-mutated *Rep* gene of Bean Golden Mosaic Virus (BGMV) did not exhibit transdominant interference. As the Examiner notes, the experiments

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were carried out using BGMV AC1 gene constructs, most of which contained mutations; however, the construct indicated as "WT AC1" in Table 12 did not contain mutations. BGMV is a geminivirus like tomato mottle virus and shares some homology with tomato mottle virus. Thus, the Stout *et al.* patent is not silent regarding constructs comprising genes of a related geminivirus that lack mutations: the Stout *et al.* patent teaches that transformation with a non-mutated *Rep* gene of BGMV did not provide interference with viral replication. Thus, the Stout *et al.* patent teaches away from Applicants' claimed invention.

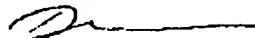
As the Examiner is aware, in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). As can be understood from the above remarks, the Stout *et al.* patent does not teach or suggest, either explicitly or inherently, each and every element of Applicants' claimed invention. Accordingly, reconsideration and withdrawal of the rejection under 35 USC §102(e) is respectfully requested.

In view of the foregoing remarks, Applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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